IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:	Roberto Ayala, et al.	)
		)
SERIAL NUMBER:	09/909,686	) Before the Board
		) of Appeals
FILED:	July 20, 2001	)
		) Appeal No.
		)
FOR:	A METHOD FOR	)
	DYNAMICALLY EVALUATING	)
	PROJECTED DAYS OF SUPPLY	)
	OF INVENTORY LEVELS IN A	)
	SUPPLY CHAIN	)

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

APPEAL BRIEF

REAL PARTY IN INTEREST

The real party in interest is International Business Machines Corporation, INC.,

the assignee of recorded dated 07/20/2001, reel / frame 012024/ 0175.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

STATUS OF CLAIMS

Claims 8 and 24 have been cancelled.

Claims 1-7, 9-23, and 25-34 stand rejected.

The rejections of claims 1-7, 9-23, and 25-34 are herein appealed.

STATUS OF AMENDMENTS

Applicants' Amendment of January 19, 2007 was entered.   No subsequent

Amendments have been introduced.

SUMMARY OF CLAIMED SUBJECT MATTER

A concise explanation of the subject matter defined in each of the independent

claims 1 and 17 involved in the appeal is provided below:

Claim 1

Claim 1 recites "[a] computer-implemented method for managing inventory of a

stock item over a number of specified time periods".

The method comprises "receiving an updated demand forecast" and "selecting a

search criteria for determining projected days of supply". Referring to block 202 of FIG.

2 and page 12, lines 16-19, a user initiates the process by entering the updated forecast

for each period as a result of a new planning cycle into client system 104, followed by

selecting a search criteria at step 204.   The criteria may include a part number, part

name, and/or description.

The method further comprises "extracting current data related to said search

criteria, the current data including supplier commitment data".   Referring to block 206 of

FIG. 2 and page 12, lines 22-24, the tool extracts current data related to the search criteria

entered for analysis.

The method comprises "updating projected forecast data, the projected forecast data including a quantity of said stock item expected to be consumed during at least one of said number of specified time periods". Referring to block 209 of FIG. 2 and page 12, line 30 through page 13, line 10, the tool retrieves inventory data, forecast data, and commits data from data storage device 110 (FIG. 1) and/or RSC storage according to the selected horizon reviewed at step 209 (FIG. 2). Forecast data is acquired by any desired technique suitable for enterprise site 102 (FIG. 1) and represents the quantity of materials that the enterprise site expects to consume for the period of time specified (e.g., the current week).

The method further comprises determining, "for a given time period", "projected inventory level using said projected forecast data, said supplier commitment data, and prior periods' projected inventory levels." Referring to block 210 (FIG. 2) and page 13, line 11 to page 14, line 5, projected inventory analysis is performed at step 210 and includes subtracting the forecast data for the previous period from the inventory data extracted at step 206. The tool then adds this figure to the commits data from the previous period which results in a number herein referred to as a projected inventory level. The tool captures a projected days of supply range which has been specified for a particular inventory item.

The method further comprises determining, "for the given time period", "projected days of supply of inventory using said projected inventory level for a current time period and projected forecast data for subsequent periods". Referring to block 212 (FIG. 2) and page 14, line 6 through page 15, line 8, the tool uses the result of the projected inventory calculation to translate the result in projected days of supply via a

projected days of supply calculation. The projected days of supply calculation is preferably considered at the beginning of the period. For each period i in a previously selected horizon, a repetitive calculation is utilized while coverage inventory remains greater than zero. The calculation includes subtracting from coverage inventory the forecast of a period denoted as (n+i) and adding '1' to the index i.

The method further comprises "when said projected days of supply is out of a predetermined range for a given time period, taking corrective action." Referring to block 218 (FIG. 2) and page 15, lines 9-16, if the projected days of supply is outside of the acceptable range, the enterprise evaluates the commits and/or forecast data and establishes either a reduced or increased requirement for transmittal to the associated supplier 116 (FIG. 1) and/or RSC 114.

Claim 17

Claim 17 recites "[a] storage medium encoded with machine-readable computer program code for managing inventory of a stock item over a number of specified time periods, the storage medium including instructions for causing a computer to implement a method". Referring to FIG. 1 and page 6, lines 10-12, the projected days of supply inventory management tool is implemented via a computer network system such as that depicted in FIG. 1. Referring to page 7, line 28- page 8, line 3, central server 120 provides a centralized system and location for directing and coordinating the activities implemented by the projected days of supply inventory management tool.

Claim 17 further recites "receiving an updated demand forecast" and "selecting a search criteria for determining projected days of supply". Referring to block 202 of FIG.

2 and page 12, lines 16-19, a user initiates the process by entering the updated forecast for each period as a result of a new planning cycle into client system 104, followed by selecting a search criteria at step 204. The criteria may include a part number, part name, and/or description.

Claim 17 further recites "extracting current data related to said search criteria, the current data including supplier commitment data". Referring to block 206 of FIG. 2 and page 12, lines 22-24, the tool extracts current data related to the search criteria entered for analysis.

Claim 17 further recites "updating projected forecast data, the projected forecast data including a quantity of said stock item expected to be consumed during at least one of said number of specified time periods". Referring to block 209 of FIG. 2 and page 12, line 30 through page 13, line 10, the tool retrieves inventory data, forecast data, and commits data from data storage device 110 (FIG. 1) and/or RSC storage according to the selected horizon reviewed at step 209 (FIG. 2). Forecast data is acquired by any desired technique suitable for enterprise site 102 (FIG. 1) and represents the quantity of materials that the enterprise site expects to consume for the period of time specified (e.g., the current week).

Claim 17 further recites determining, "for a given time period", "projected inventory level using said projected forecast data, said supplier commitment data, and prior periods' projected inventory levels." Referring to block 210 (FIG. 2) and page 13, line 11 to page 14, line 5, projected inventory analysis is performed at step 210 and includes subtracting the forecast data for the previous period from the inventory data extracted at step 206. The tool then adds this figure to the commits data from the

previous period which results in a number herein referred to as a projected inventory level. The tool captures a projected days of supply range which has been specified for a particular inventory item.

Claim 17 further recites determining, "for the given time period", "projected days of supply of inventory using said projected inventory level for a current time period and projected forecast data for subsequent periods". Referring to block 212 (FIG. 2) and page 14, line 6 through page 15, line 8, the tool uses the result of the projected inventory calculation to translate the result in projected days of supply via a projected days of supply calculation. The projected days of supply calculation is preferably considered at the beginning of the period. For each period i in a previously selected horizon, a repetitive calculation is utilized while coverage inventory remains greater than zero. The calculation includes subtracting from coverage inventory the forecast of a period denoted as (n+i) and adding '1' to the index i.

Claim 17 further recites "when said projected days of supply is out of a predetermined range for a given time period, taking corrective action." Referring to block 218 (FIG. 2) and page 15, lines 9-16, if the projected days of supply is outside of the acceptable range, the enterprise evaluates the commits and/or forecast data and establishes either a reduced or increased requirement for transmittal to the associated supplier 116 (FIG. 1) and/or RSC 114.

The above exemplary embodiments are discussed with respect to the aforementioned independent claims by way of example only and are not intended to in any way limit the scope of these claims.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-2, 6-7, 9-10, 13-18, 22-23, 25-26, and 29-32 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,006,196 to Feigin et al. in view of U.S. Statutory Invention Registration No. H1743 to Graves et al. The rejection of claims 1-2, 6-7, 9-10, 13-18, 22-23, 25-26, and 29-32 as being allegedly unpatentable over U.S. Patent No. 6,006,196 to Feigin et al. in view of U.S. Statutory Invention Registration No. H1743 to Graves et al., is to be reviewed on appeal.

In addition Claims 3-5, 11-12, 19-22, 27-28 and 33-34 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,006,196 to Feigin et al. and U.S. Statutory Invention Registration No. H1743 to Graves et al as applied to Claims 1 and 17 above, and further in view of U.S. Patent Application Publication No. 2002/0072986 to Aram. The rejection of claims 3-5, 11-12, 19-22, 27-28 and 33-34 as being allegedly unpatentable over U.S. Patent No. 6,006,196 to Feigin et al. and U.S. Statutory Invention Registration No. H1743 to Graves et al as applied to Claims 1 and 17 above, and further in view of U.S. Patent Application Publication No. 2002/0072986 to Aram, is to be reviewed on appeal.

ARGUMENT

Rejection of claims 1-2, 6-7, 9-10, 13-18, 22-23, 25-26, and 29-32

Claims 1-2, 6-7, 9-10, 13-18, 22-23, 25-26, and 29-32 have been rejected as being

allegedly unpatentable over Feigin et al. and in view of Graves et. Al..

The Examiner states with regard to claims 1, 9, 14-17, and 29-32, Feign discloses

a computer-implemented method and storage medium encoded with machine-readable

computer program code for managing inventory comprising: receiving an updated

demand forecast and updated demand forecast (col. 5, line 49-col. 6, line 2; col.2, lines

22-52); selecting a search criteria for determining projected periods of supply (col.3, line

19-25; col.5, lines 39-43); and; determining for a give time period: projected inventory

level using the projected data, supplier commitment data, and prior periods' projected

inventory levels; and projected days supply of inventory using the projected inventory

level for a current item period and projected forecast data for subsequent periods (col. 6,

line 3-17; col. 7, lines 57-col. 8, line 3).

The Examiner states regarding claims 2, 6-7, 13, 18, 22-23, and 25, Feigin the

given time period is established by at least one of a supplier and manufacturer (Figure 1;

col. 5, lines 35-48; col. 6, line 3-18); the number of convenient time periods includes

selected horizon (col. 3, lines 19-52 col. 6, lines 3-18); the number of convenient time

periods is measured in increments of time, the increments include one of: days, weeks,

and months (col. 3, line 28-35); the supplier commitment data includes a quantity of sid

stock item a supplier commits to provide for a manufacturer; (col. 3, line 28-35).

The Examiner states regarding claims 10 and 26, Feigin discloses the supplier

commitment data includes a quantity of the stock item a supplier commits to provide for

a manufacturer (col. 3, line 54-col.4 line 22); the determining for a given time period the

projected inventory level include performing a calculation comprising:

PI (n)= PI (n-1)-F(n-1) + C(n-1), wherein further PI represents a projected

inventory value; n represents a variable, the variable representing a time period; F

represents a projected forecast value; and C represents a supplier commitment value. (col.

3, line 20-col.4, line 21; col. 6, lines 3-17).

The Applicants submit that the rejections of claims 1-2, 6-7, 9-10, 13-18, 22-23,

25-26, and 29-32 are in error because the Examiner has not met the burden of

establishing a *prima facie* case of obviousness, thus contravening the provisions of 35

U.S.C. §103.

The Applicants submit that there is clear error in the outstanding rejections under

35 U.S.C. §103(a) because the combination of cited references do not teach or suggest all

of the claim limitations. With respect to independent claims 1 and 17, the Examiner

states on page 2 of the Office Action that Feigin teaches *"selecting a search criteria for*

determining projected days of supply", citing column 3, lines 19-25 and column 5, lines

39-43 of Feigin for support. However, column 3, lines 19-25 and column 5, lines 39-43

of Feigin refer to Distribution Resource Planning (DRP) logic based upon a set of

recursive equations that characterize inventory dynamics over time. The passages cited

by the Examiner merely describe an algorithm for recursively calculating replenishment requirements, on-hand inventory, and backordered demand for a specific product at a specific location. There is simply no teaching or suggestion in Feigin that the specific product is selected by means of search criteria. Thus, there is clearly no support anywhere in the Feigin reference of using search criteria to select a specific product.

With respect to independent claims 1 and 17, the Examiner states on page 3 of the Office Action that, although Feigin fails to disclose *"extracting current data related to said search criteria"*, Graves teaches the foregoing limitation. The Examiner cites column 10, line 59-column 11, line 9; column 14, lines 5-13; and column 17, lines 28-59 in support of this contention. However, the passages cited by the Examiner merely disclose comparing a projected storage tank level to an actual level once every three hours. If the difference between the actual level and the projected level exceeds a predetermined threshold, then the projected level is recalculated using the last three hour flow rate, and a facsimile message reflecting an amended delivery schedule is generated. There is simply no teaching or suggestion in Graves relating to a search criteria and, consequently, there is no teaching or suggestion that current data related to the search criteria are extracted. Thus, there is clearly no support anywhere in the Graves reference of "extracting current data related to said search criteria".

Therefore, Feigin in view of Graves do not render claims 1 and 17 obvious because they fail to teach, suggest, or render obvious at least the elements *"selecting a search criteria for determining projected days of supply"* and *"extracting current data related to said search criteria"*, as recited in claims 1 and 17.

Dependent claims 2, 6-7, 9-10, 13-16, 18, 22-23, 25-26, and 29-32 were rejected under 35 U.S.C. §103(a) as being unpatentable over Feigin in view of Graves. Applicants submit that claims 2, 6-7, 9-10, and 13-16 are allowable at least because they depend from claim 1 which is believed to be an allowable claim for the reasons described above. Applicants further submit that claims 18, 22-23, 25-26, and 29-32 are allowable at least because they depend from claim 17 which is believed to be an allowable claim for the reasons described above.

Rejection of claims 3-5, 11-12, 19-21, 27-28, and 33-34

Claims 3-5, 11-12, 19-21, 27-28, and 33-34 were rejected as being allegedly unpatentable over Feigin and Graves as applied to Claims 1 and 17, and further in view of Aram.

The Examiner states regarding claims 3-5, 11-12, 19-21, and 27-28, Feigin and Graves substantially discloses the claimed invention, however, the combination does not explicitly disclose providing a search criteria including part number indentifying the stock item (Claims 3 and 19); part name identifying stock item (Claims 4 and 20); part description identifying the stock item (Claims 5 and 21); the predetermined range for the projected says of supply is established by at least one of manufacturer, and supplier (Claims 11 and 27); the predetermined range for the projected says of supply is a single number (Claims 12 and 28).

The Examiner states regarding claims 33-34, Feigin and Graves substantially discloses the claimed invention, and specifically the projected period of time of supply is determined for each time period by performing the calculation of a projected period of supply value, as recited in the claim (Feigin, the objective of DRP logic is to project, for the product and location of interest the following quantities for all future periods, col. 3, line 31-34). However the combination does not explicitly disclose the period or time of day. Aram, on the other hand discloses the period of time is day in calculating a period of supply value (paragraph 113; paragraph 143; paragraph 145).

Applicants submit that claims 3-5, 11-12 and 33 are allowable at least because they depend from claim 1 which is believed to be an allowable claim for the reasons described above. Applicants further submit that claims 19-21, 27-28, and 34 are allowable at least because they depend from claim 17 which is believed to be an allowable claim for the reasons described above.

CONCLUSION

In view of the foregoing, it is urged that the final rejection of claims 1-7, 9-23, and 25-34 be overturned. The final rejection is in error and should be reversed.

The fee as set forth in 37 CFR § 41.20(b)(2) is enclosed herewith.

If there are any charges with respect to this Appeal Brief or otherwise, please charge them to Deposit Account No. 50-0510 maintained by Applicants' attorneys.

Respectfully submitted,

Ayala et al.

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CLAIM APPENDIX

1.   A computer-implemented method for managing inventory of a stock item over a number of specified time periods, comprising:

receiving an updated demand forecast;

selecting a search criteria for determining projected days of supply;

extracting current data related to said search criteria, the current data including supplier commitment data;

updating projected forecast data, the projected forecast data including a quantity of said stock item expected to be consumed during at least one of said number of specified time periods;

determining for a given time period:

projected inventory level using said projected forecast data, said supplier commitment data, and prior periods' projected inventory levels; and

projected days of supply of inventory using said projected inventory level for a current time period and projected forecast data for subsequent periods; and

when said projected days of supply is out of a predetermined range for a given time period, taking corrective action.

2.   The computer-implemented method of claim 1, wherein said given time period is established by at least one of:

a supplier; and

a manufacturer.

3.   The computer-implemented method of claim 1, wherein said search criteria includes a part number identifying said stock item.

4.   The computer-implemented method of claim 1, wherein said search criteria includes a part name identifying said stock item.

5.   The computer-implemented method of claim 1, wherein said search criteria includes a part description identifying said stock item.

6.   The computer-implemented method of claim 1, wherein said number of specified time periods includes a selected horizon.

7.   The computer-implemented method of claim 1, wherein said number of specified time periods is measured in increments of time, said increments including one of:

days;

weeks; and

months.

8.   (Cancelled)

9.   The computer-implemented method of claim 1, wherein said supplier commitment data includes a quantity of said stock item a supplier commits to provide for a manufacturer.

10.   The computer-implemented method of claim 1, wherein said determining for a given time period said projected inventory level includes performing a calculation comprising:

$PI(n) = PI(n-1) - F(n-1) + C(n-1)$;

wherein further:

PI represents a projected inventory value;

n represents a variable, said variable representing a time period;

F represents a projected forecast value; and

C represents a supplier commitment value.

11.   The computer-implemented method of claim 1, wherein said predetermined range for said projected days of supply is established by at least one of:

a manufacturer; and

a supplier.

12.   The computer-implemented method of claim 1, wherein said predetermined range for said projected days of supply is a single number.

13.   The computer-implemented method of claim 1, wherein said projected days of supply is measured in time increments including one of:

days;

weeks; and

months.

14.   The computer-implemented method of claim 1, wherein said corrective action includes modifying said supplier commitment data.

15.   The computer-implemented method of claim 14, wherein said modifying said supplier commitment data includes delaying a shipment.

16.   The computer-implemented method of claim 14, wherein said modifying said supplier commitment data includes increasing said supplier commitment data.

17.   A storage medium encoded with machine-readable computer program code for managing inventory of a stock item over a number of specified time periods, the storage medium including instructions for causing a computer to implement a method, comprising:

receiving an updated demand forecast;

selecting a search criteria for determining projected days of supply;

extracting current data related to said search criteria, the current data including supplier commitment data;

updating projected forecast data, the projected forecast data including a quantity of said stock item expected to be consumed during at least one of said number of specified time periods;

determining for a given time period:

projected inventory level using said projected forecast data, said supplier commitment data, and prior periods' projected inventory levels; and

projected days of supply of inventory using said projected inventory level for a current time period and projected forecast data for subsequent periods; and

when said projected days of supply is out of a predetermined range for a given time period, taking corrective action.

18. The storage medium of claim 17, wherein said given time period is established by at least one of:

a supplier; and

a manufacturer.

19. The storage medium of claim 17, wherein said search criteria includes a part number identifying said stock item.

20. The storage medium of claim 17, wherein said search criteria includes a part name identifying said stock item.

21. The storage medium of claim 17, wherein said search criteria includes a part description identifying said stock item.

22. The storage medium of claim 17, wherein said number of specified time periods includes a selected horizon.

23. The storage medium of claim 17, wherein said number of specified time periods is measured in increments of time, said increments including one of:

days;

weeks; and

months.

24.   (Cancelled)

25.   The storage medium of claim 17, wherein said supplier commitment data includes a quantity of said stock item a supplier commits to provide for a manufacturer.

26.   The storage medium of claim 17, wherein said determining for a given time period said projected inventory level includes performing a calculation comprising:

$$PI(n) = PI(n-1) - F(n-1) + C(n-1);$$

wherein further:

PI represents a projected inventory value;

n represents a variable, said variable representing a time period;

F represents a projected forecast value; and

C represents a supplier commitment value.

27.   The storage medium of claim 17, wherein said predetermined range for said projected days of supply is established by at least one of:

a manufacturer; and

a supplier.

28.   The storage medium of claim 17, wherein said predetermined range for said projected days of supply is a single number.

29.   The storage medium of claim 17, wherein said days of supply is measured in time increments including one of:

days;

weeks; and

months.

30.   The storage medium of claim 17, wherein said corrective action includes modifying said supplier commitment data.

31.   The storage medium of claim 30, wherein said modifying said supplier commitment data includes delaying a shipment.

32.   The storage medium of claim 30, wherein said modifying said supplier commitment data includes increasing said supplier commitment data.

33.   The method of claim 1, wherein the projected days of supply is determined for each time period by performing a calculation, comprising:

$PDOS(n) = DP * (i + CI/F(n+i))$;

wherein further:

PDOS represents a projected days of supply value;

n represents a variable for the given period;

DP represents a number of days supply in the given period;

i represents an index with a value from 0 [[1]] through n;

CI represents a coverage inventory, the coverage inventory is initialized with the projected inventory level at the beginning of the given period; and

F represents a forecast value.

34. The storage medium of claim 17, wherein the projected days of supply is determined for each time period by performing a calculation, comprising:

$$PDOS(n) = DP * (i + CI/F(n+i));$$

wherein further:

PDOS represents a projected days of supply value;

n represents a variable for the given period;

DP represents a number of days supply in the given period;

i represents an index with a value from 0 [[1]] through n;

CI represents a coverage inventory, the coverage inventory is initialized with the projected inventory level at the beginning of the given period; and

F represents a forecast value.

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None